Amendments to the Abstract:

Please amend the abstract, pages 64-65, by replacing it with the following amended Abstract.

ABSTRACT

FACILITATING PROTEIN FOLDING AND SOLUBILITY BY USE OF PEPTIDE EXTENSIONS

~~Disclosed herein are~~ The present invention comprises novel compositions and methods for enhancing the solubility and promoting the adoption of native folding conformation of ~~a~~ proteins or polypeptides of interest expressed by recombinant DNA techniques. In one ~~One~~ embodiment of the present invention ~~relates to a~~ the protein or polypeptide of interest is modified through either a carboxyl- or an amino-terminal peptide extension, so as to promote folding within host cells. ~~Another~~ In another embodiment the peptide-extended protein or polypeptide of interest is recovered in good yield from inclusion bodies by ~~relates to a method for enhancing the~~ *in vitro* renaturation ~~of a protein or polypeptide of interest expressed by recombinant DNA techniques, in circumstances where, following expression, a substantial percentage of the expressed protein or polypeptide of interest is localized within inclusion bodies~~. ~~Yet another embodiment of the~~ The present invention ~~relates to an~~ further includes expression vectors comprising a nucleic acid sequence encoding a peptide extension and a multiple cloning site for inserting, in-frame with the peptide extension sequence, a nucleic acid sequence encoding a protein or polypeptide of interest. The peptide extensions of the present

invention comprise ~~different amino acid sequences and intrinsic net charges, depending upon the specific species. The total length of the peptide extensions comprise~~ peptides of 61 amino acid residues or less, ~~whereas the~~ said peptides having net intrinsic charges of ~~the peptide extensions range from~~ about -20 to about -2 ~~and~~ or from about -20 to about +2, for peptide extensions fused to carboxyl- ~~and~~ or amino-termini, respectively. ~~Primary objectives of the present invention include: (*i*) enhancing the solubility, while concomitantly optimizing the folding, of proteins of interest into their biologically active conformations in host cells ; (*ii*) characterizing the features of the carboxyl- and amino-terminal peptide extension that are necessary for their protein folding activity within host cells; (*iii*) determining whether these carboxyl- and amino-terminal peptide extensions can promote renaturation of mis-folded proteins *in vitro*; and (*iv*) identifying protein characteristics which determine behavior of the protein as a substrate for the peptide extension-mediated folding described herein.~~